

Semi-annual Report  
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by Rupert Wildt

NASA Research Grant  
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to Yale University

The principal investigator and his collaborator Prof. Wendell C. DeMarcus, of the University of Kentucky, have explored the problem of heat transfer by radiation in strongly absorbing and dispersing media. In particular, they have studied the consequences of a modified form of Kirshhoff's law applying to strong absorbers, which was proposed by vonLane more than fifty years ago, but is mentioned nowhere in the current literature on heat transfer in solids. If vonLane's formulation is accepted, radiative transfer in planetary interiors should differ strikingly from that in stellar interiors, where the radiant flux is impeded by strong absorption and seeks its way to the surface between the spectral range of high opacity; in planetary interiors the regime would be the opposite one, i.e., the radiant flux would travel pre- eminently through the spectral ranges of high opacity.

A note on "Jupiter's Great Red Spot " by DeMarcus and Wildt was published in Nature 209, 62, 1966

As of January 1, 1966, Mr. Edwin Bishop was appointed with the Grant; he had completed his Ph.D. Thesis in physics and will receive his degree in June 1966

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